



**{PRIVATE } UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8**

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April 12, 2018

MEMORANDUM

SUBJECT: Phase II Site Characterization Sampling and Analysis Plan, Columbia Falls Aluminum Company, Columbia Falls, Flathead County, Montana, February 28, 2018

FROM: David L. Berry, Ph.D., Senior Toxicologist, Superfund Program

TO: Michael Cirian, P.E., Remedial Program Manager

The following are comments regarding *the Phase II Site Characterization Sampling and Analysis Plan, Columbia Falls Aluminum Company, Columbia Falls, Flathead County, Montana*. If you have questions or concerns or require additional information, please contact me at (303) 312-6358, or by email: berry.david@epa.gov.

General Comments:

1. The *Phase II Site Characterization Sampling and Analysis Plan, Columbia Falls Aluminum Company, Columbia Falls, Flathead County, Montana* was prepared for the Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, Flathead County, Montana 59912, by Roux Associates, Inc., 2019 Shafter Street, Islandia, New York 11749. The document was pretty well organized and logically developed. However, it was very general in its approach and focused more on nature and extent sampling rather than sampling to support human health and ecological risk assessment and remedial design. It was sometimes difficult to search for information in tables in the middle of a 370 page document when a simple statement could refer the reader to a specific topic/table while noting that data was included in Section X. Document length is an issue.
2. The large figures illustrating potential future sampling locations were necessary for the scale of the site; they required some iteration to digest. This reviewer found Table 1 to be arduous to review because of the page size and the number of columns was so large.
3. The DQOs presented in Section 6.5 lack focus and specificity. They wander from finalizing the COPCs and COPECs to nature and extent of contamination to supporting the BHHRA and BERA to completion of the Feasibility Study. The DQOs should clearly state what data will be collected and for what purpose. They should follow the DQO guidance and provide a clear, concise description of the focus of the investigation, the investigation goals, required inputs for each goal, to investigation bounds, the analytical approaches for addressing the data gaps in nature and extent, human and ecological risk, and feasibility study, address acceptance criteria, and develop a plan for obtaining the data to meet the investigation goals. As drafted, Section 6.5 generally follows the DQO process but it is unclear that the goals of the investigation can be successfully completed based on the information provided. Suggest significant revision of this section.

Specific Comments:

1. It is unclear what the deeper soil samples will be used for; nature and extent or migration to groundwater?

2. In Section 4.5, it is suggested that dioxins/furan will be analyzed at depths down to the water table? This seems unnecessary unless there is reason to believe that there is a large mass or some organic like diesel has leached them downward in the vadose zone.
3. In Section 4.6, the screened interval for new monitoring wells is established at 5 to 10 feet below the existing water table. This reviewer suggests that the screened interval be set across the water table such that the monitoring well could be used as a vapor well if VOCs are in the vadose zone and to allow sampling of the groundwater in the upper-most portion of the shallow aquifer. The upper most portion of the aquifer is where a potential residential well might be placed.
4. In Section 4.5, where Operational Area Incremental Soil Sampling is discussed, it should be noted that this methodology cannot be used for soil sampling of VOCs. Discrete soil sampling for VOCs must be conducted using preparation Method 5035A {Encore sampling} followed by Method 8260b with purge and trap.
5. In Section 4.13 where soil analysis is addressed, the reader is referred to Table 3 for Laboratory QA and associated information. For 8260B, it should be noted that soil preparation method 5035A should be used for VOC analysis. For Method 8270D, it should be noted that SIMM analysis will be required to achieve DLS support risk assessment for PAHs. Method 8082 is not listed in Table 3 for PCBs.
6. In Section 6.5, within the DQO section, it would be helpful if a sentence was included that indicated the both human health based- and ecological based detection limits will be achieved and refer to Table 7 & 8. Had to search for any mention of DLs in 6.5.6.5 and 7.4.2 to find a reference to DLs. Risk-based DLs should be clearly stated/referenced.
7. In Section 7.10 , it states that the EDDs will be load into an EQulS™ database. I assume that this is agreeable to the RPM as Region 8 commonly uses Scribe. I have no problem with this as long as we have access to the database.
8. The Appendix, "Evaluation of Data Quality Objective-based Minimum Sample Sizes" discusses data manipulation and statistical analysis of the field data. The authors propose to censor the data by removing "outliers" as determined by ProUCL 5.1. ProUCL is often misused because some of the underlying assumptions are not explained adequately in the ProUCL User's Manual and no recommendations are made for when a particular test or procedure is applicable or appropriate. This reviewer disagrees with this procedure as outliers as part of the data set and should not be eliminated. See *Statistics for Censored Environmental Data Using Minitab® and R* , Dennis Helsel, 2012